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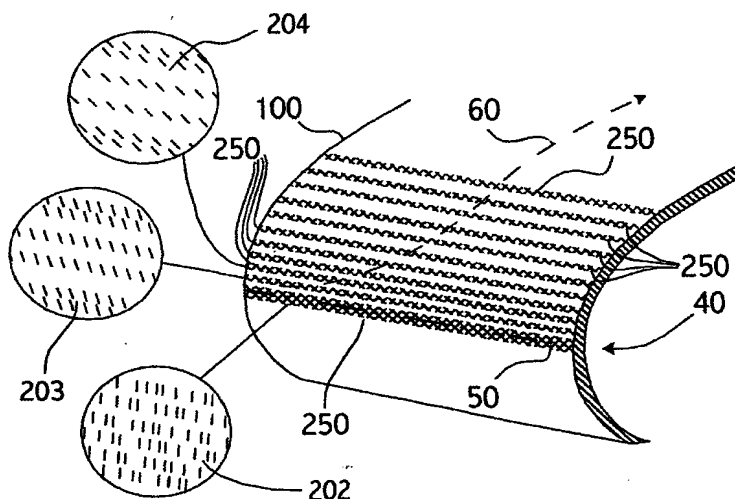
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- Declaration under Rule 4.17:**
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(54) Title: PERFORATED SKIN STRUCTURE FOR LAMINAR-FLOW SYSTEMS



(57) Abstract: The outer skin (100) of an aerodynamic body (40) has perforations (200) arranged in particular patterns in respective spanwise extending groups or bundles (250). Each perforation is preferably a micro-slot with a length of 100 to 3000 μm and a width of 50 to 250 μm . Air is sucked through the micro-slots from the boundary layer flowing over the outer skin, to achieve boundary layer control. In each bundle, the pattern, size, orientation, and other parameters of the micro-slots are designed to achieve mutual destructive interference of flow disturbances arising due to the suction, to minimize the excitation of flow instabilities in the boundary layer. Particularly, the spatial spectrum of the perforation pattern of a given bundle is essentially absent of significant energy at predetermined wavelengths of predetermined flow instabilities that otherwise appear in the boundary layer air flow. The aerodynamic body further includes supporting ribs (300) extending parallel to the perforation bundles (250) and a perforated inner plate (400) providing a throttling control of the suction flow through groups of the bundles.

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Box No. VIII (iv) DECLARATION: INVENTORSHIP (only for the purposes of the designation of the United States of America)
The declaration must conform to the following standardized wording provided for in Section 214; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box No. VIII (iv). If this Box is not used, this sheet should not be included in the request.

**Declaration of inventorship (Rules 4.17(iv) and 51bis.1(a)(iv))
for the purposes of the designation of the United States of America:**

I hereby declare that I believe I am the original, first and sole (if only one inventor is listed below) or joint (if more than one inventor is listed below) inventor of the subject matter which is claimed and for which a patent is sought.

This declaration is directed to the international application of which it forms a part (if filing declaration with application).

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I hereby declare that my residence, mailing address, and citizenship are as stated next to my name.

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Prior Applications:

US Priority Claimed: US Provisional Application 60/373,653, filed: 18. April 2002

I hereby acknowledge the duty to disclose information that is known by me to be material to patentability as defined by 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the PCT international filing date of the continuation-in-part application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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(if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)

Date: X April 17, 2003
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Name:

Residence:
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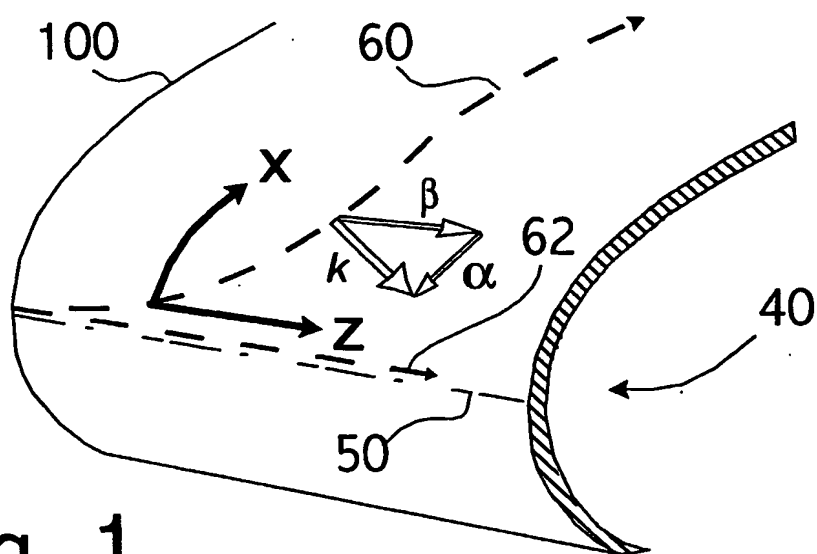


Fig. 1

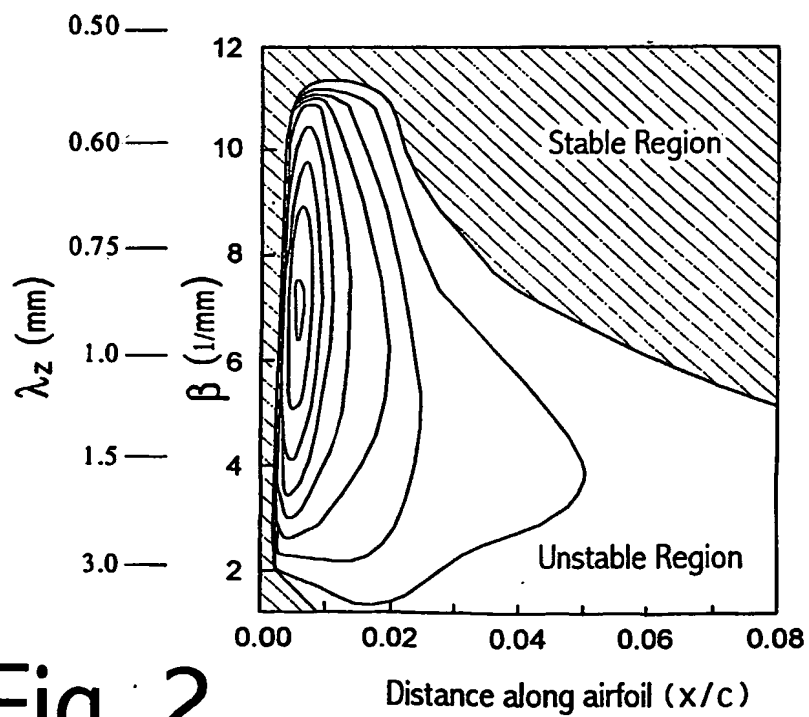


Fig. 2

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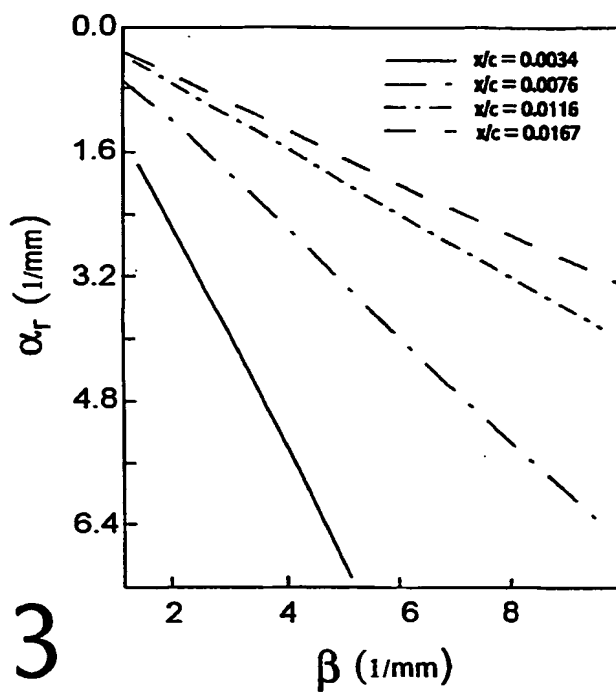
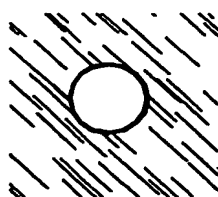


Fig. 3

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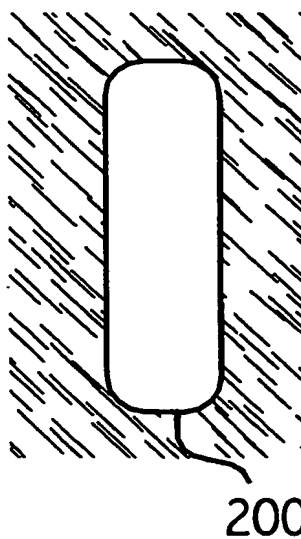


Fig. 4

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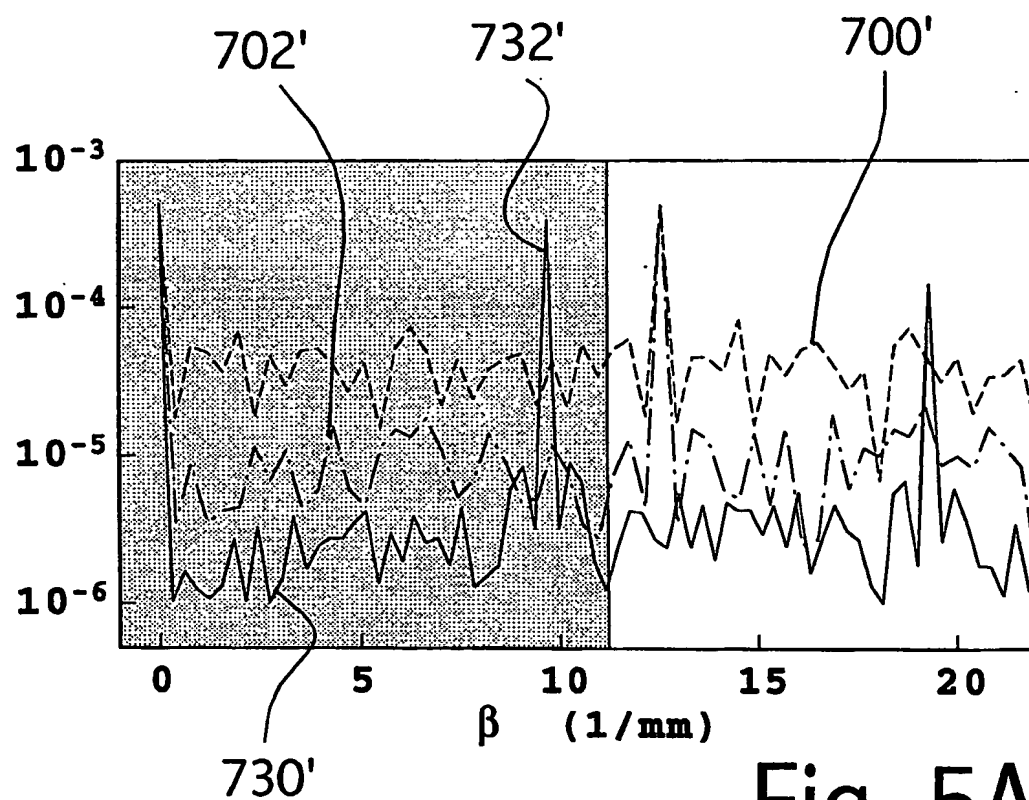
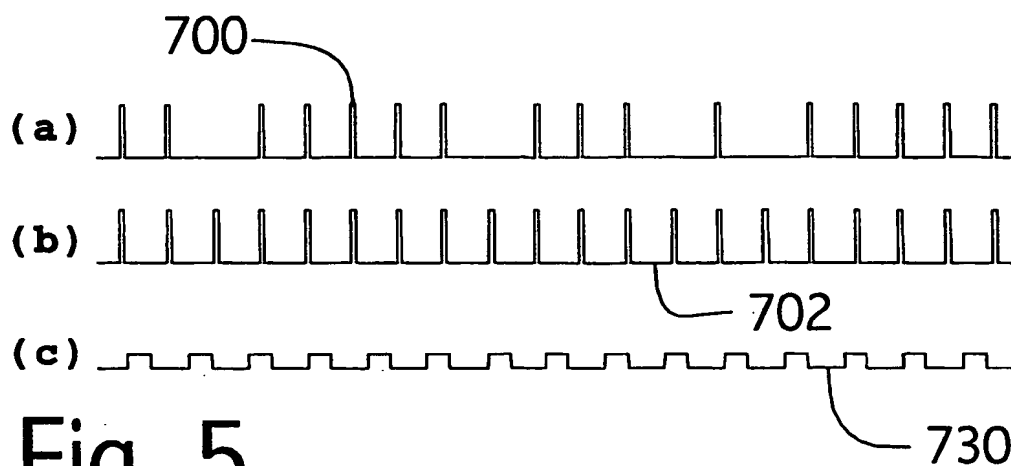
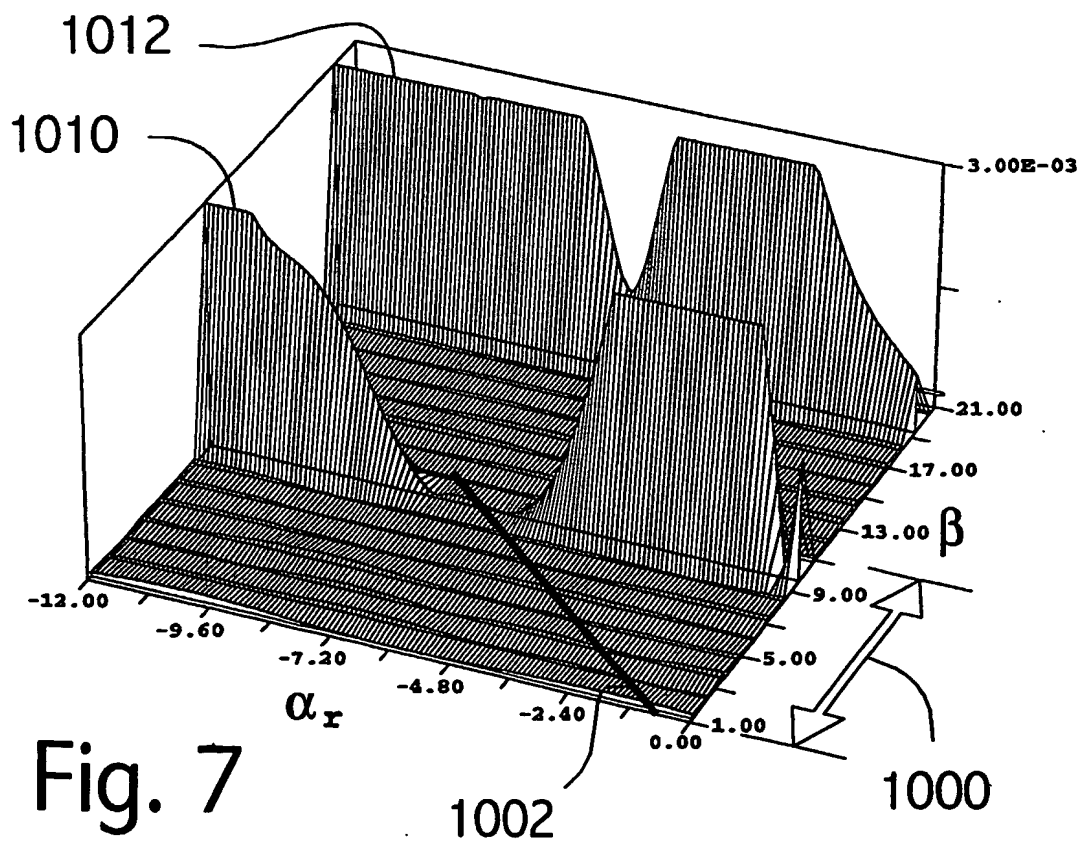
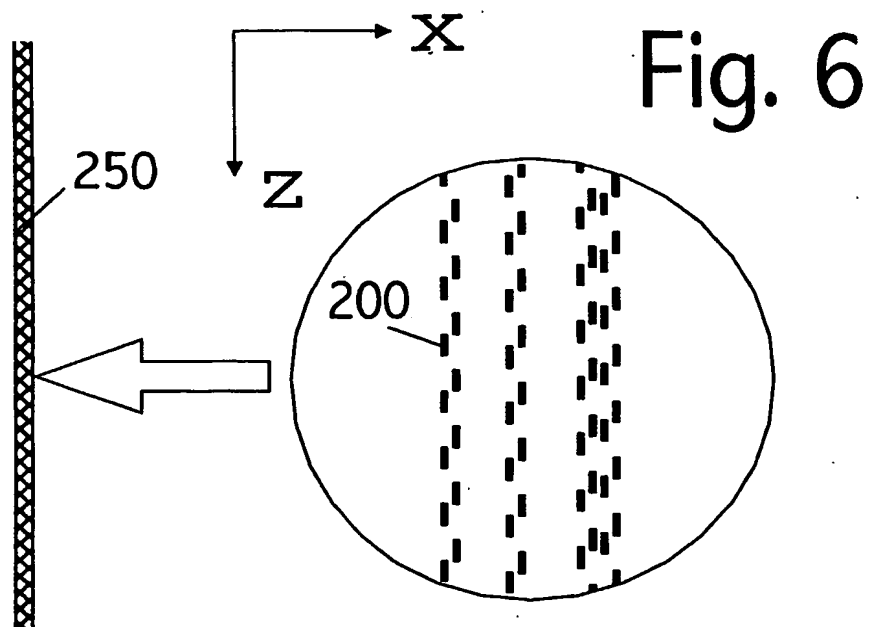
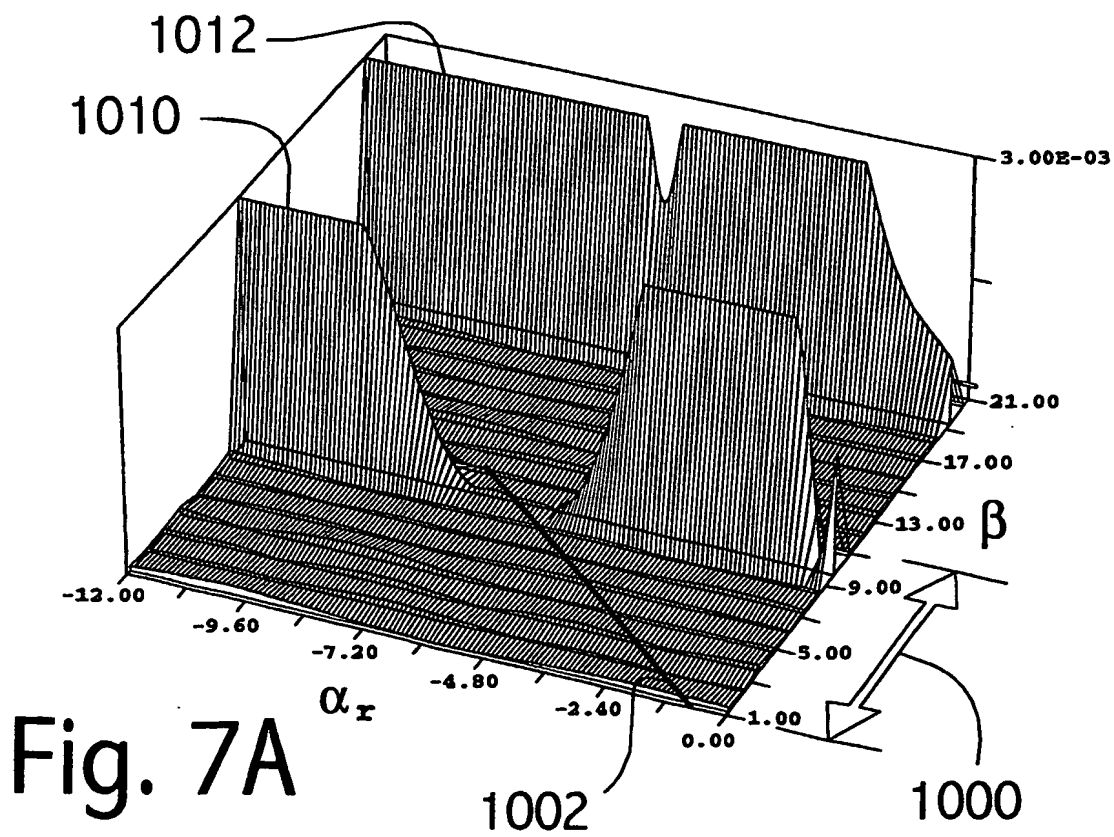
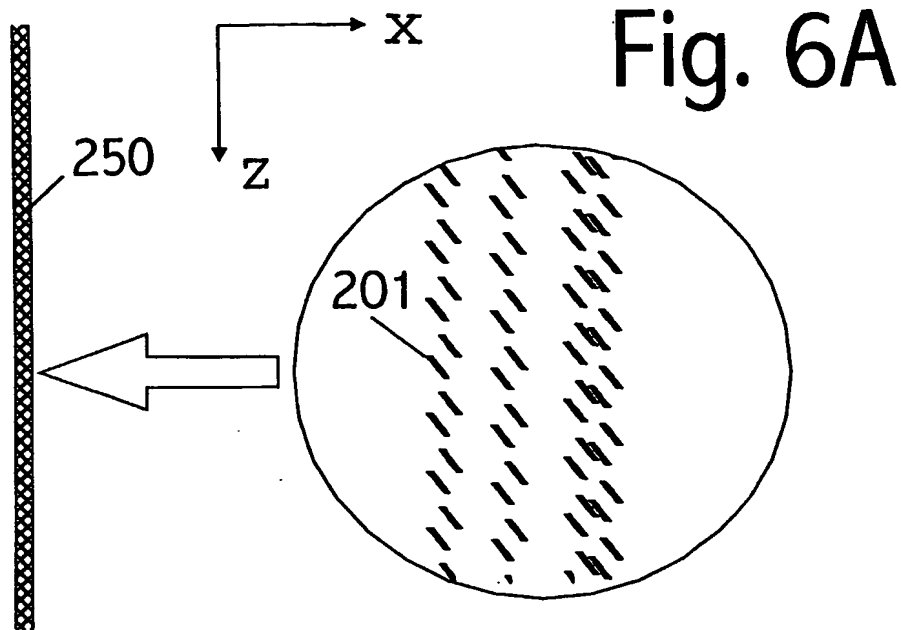


Fig. 5A

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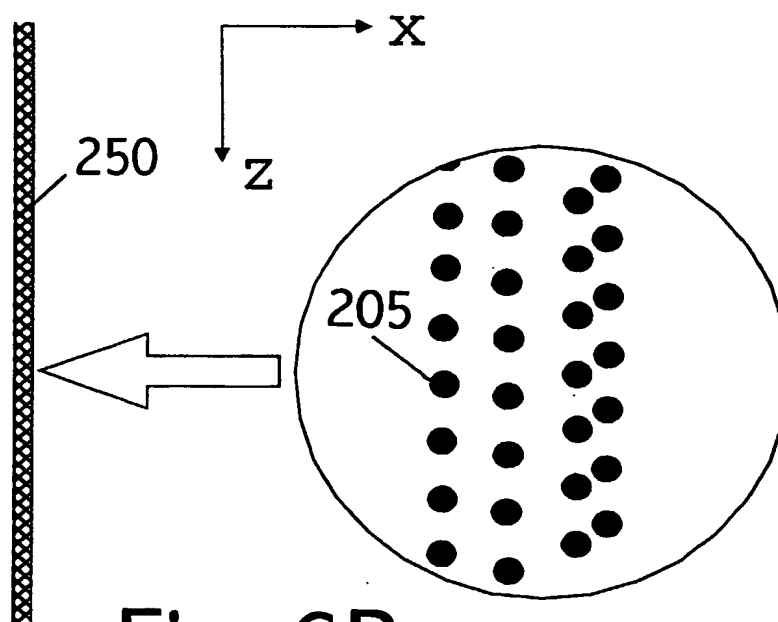


Fig. 6B

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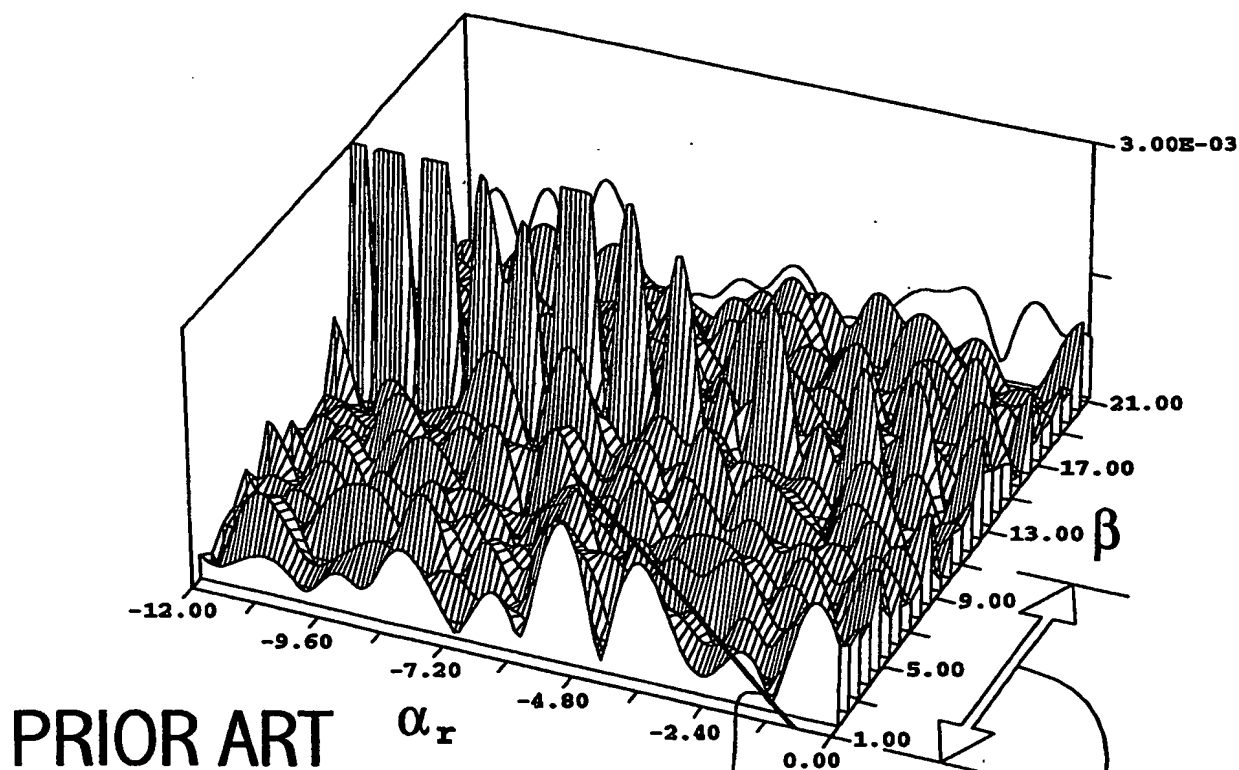
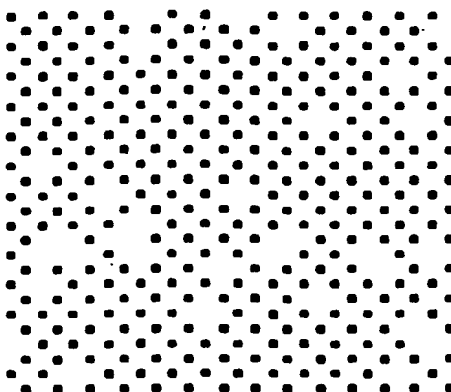


Fig. 8

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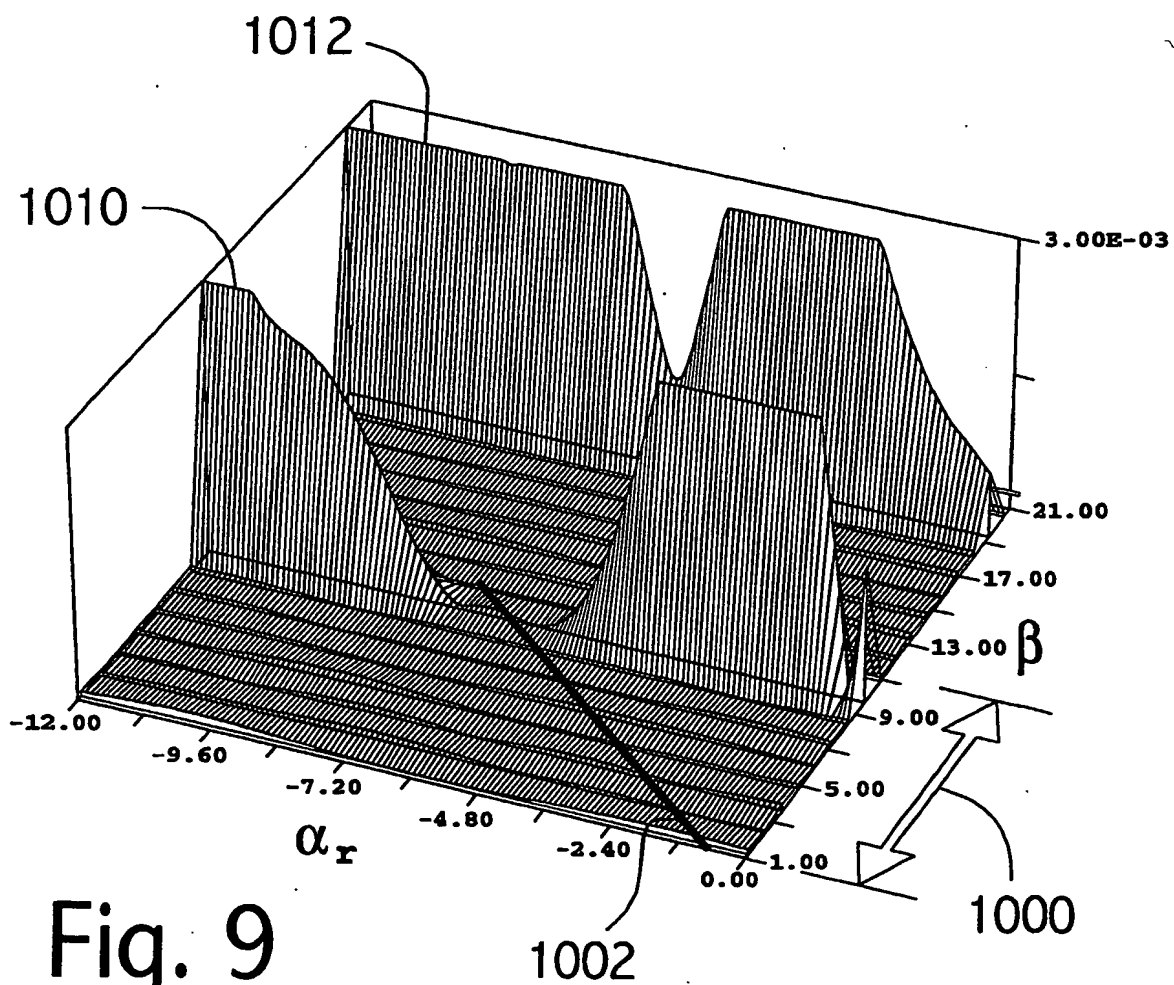
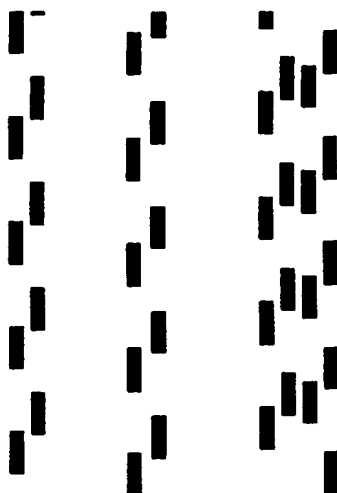


Fig. 9

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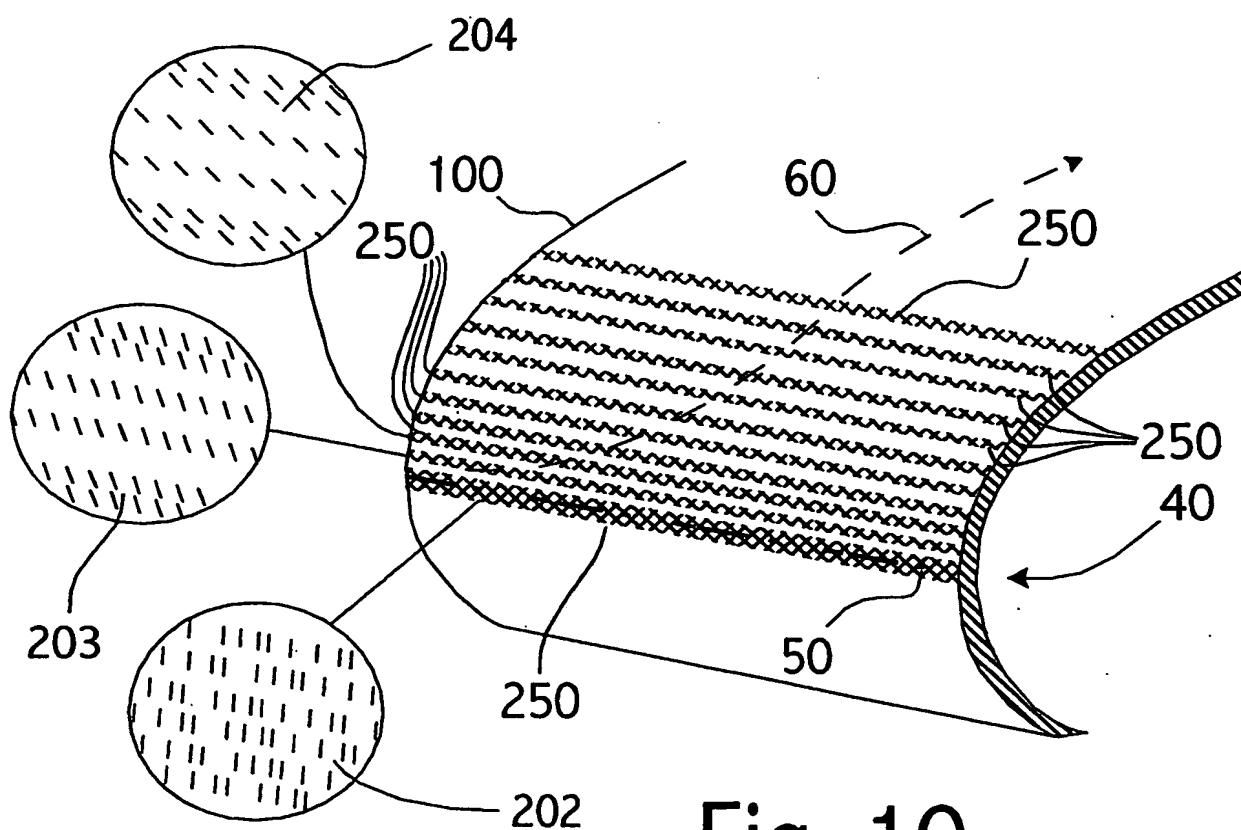


Fig. 10

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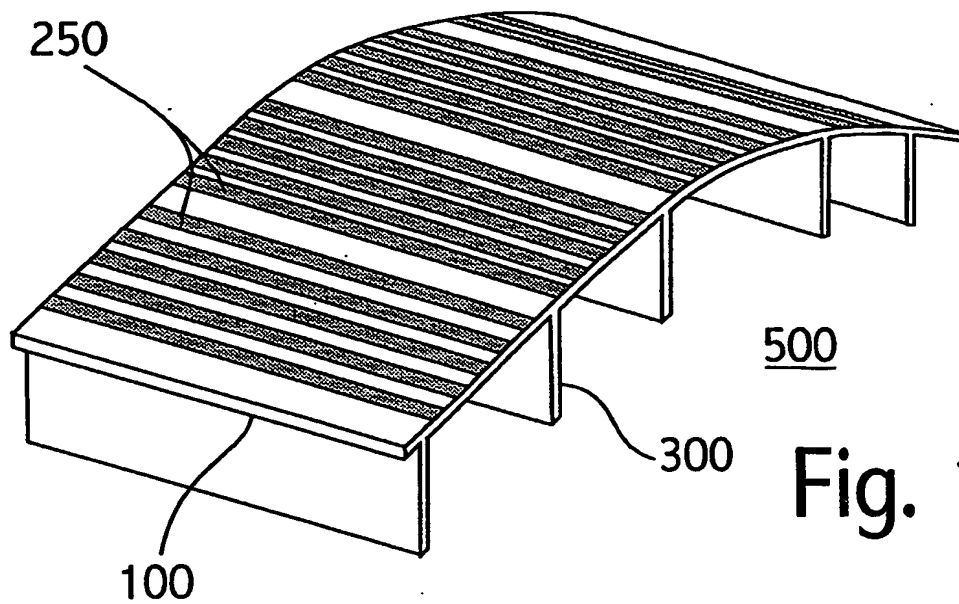


Fig. 11

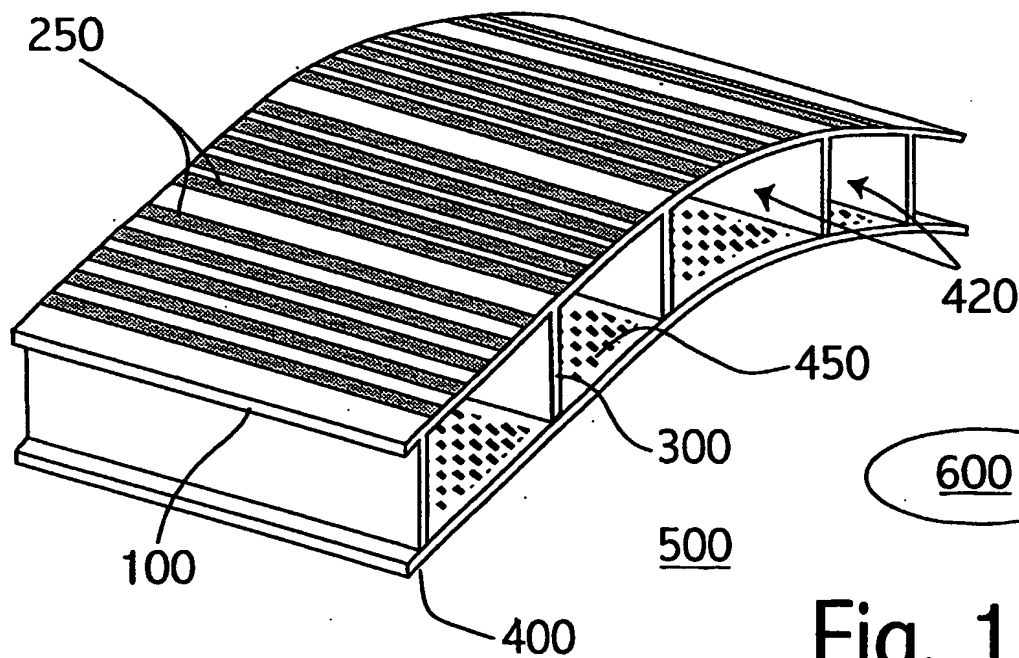


Fig. 12

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